



JET LI
STRUCTURAL ENGINEER
CURRICULUM VITAE

JET LI CV



PROFILE

Jet has over seven years of experience as a Structural Engineer in consultancy firms. Prior to becoming a Structural Engineer, Jet has worked as a Civil technician for two years.

He has been involved in a wide range of projects in New Zealand and overseas. The projects include new design, assessment and strengthening of buildings across the residential, education, community and industrial sectors.

Jet is an enthusiastic Structural Engineer who always seeks to obtain logical, practical and cost-effective solutions for clients.

QUALIFICATIONS

BE: Civil (Hons) – Bachelor of Engineering, University of Canterbury 2011

MEngSt: Earthquake – Master of Engineering Studies, University of Canterbury 2012

Member of Engineering New Zealand (MEngNZ)

CAREER HISTORY

2019 – Present, Structural Engineer - Structus Consulting Limited, Auckland, New Zealand

2019, Structural Engineer - Calibre Consulting Limited, Auckland, New Zealand

2016 – 2018, Structural Engineer – Structural Concepts Limited, Christchurch, New Zealand

2012 – 2016, Structural Engineer – HFC Group, Christchurch, New Zealand

2008 – 2010, Civil Technician – Alan Reay Consultants, Christchurch, New Zealand

TECHNICAL SKILLS

- Comprehensive knowledge of reinforced concrete, timber and steel to support strong structural analytical skills
- Comprehensive knowledge of New Zealand Building Code and Standards
- Ability to provide cost effective and practical solutions to clients
- On site experience ensuring engineering solutions are practical and buildable

MANAGEMENT SKILLS

- Proven record in successfully managing projects in terms of both quality and time
- Effective communication between all stakeholders, responsive and responsible
- Wide range of civil engineering knowledge allows for approaching projects with a big picture view, which in return provides better consulting services to clients

PROJECT EXPERIENCE

RESIDENTIAL PROJECTS

356 Madras Street Apartments, Christchurch, 2017

Structural Design of a 3-storey light weight timber framed apartment. The building comprises of light weight timber walls and floors with a separated staircase and lift shaft. Precast concrete stair units are supported by steel portals frames and cross braces. Seismic separation between the main building and the staircase were provided due to different dynamic behaviours. The challenge of the project was to limit the weight of the building due to poor ground conditions. In order to reduce the cost of the foundations, floor joists were orientated in different directions at each floor to spread loads evenly so that TC2 foundation requirements can be satisfied without significantly increasing the depth of the foundations.

Multi-unit town houses, Christchurch, 2012-2015

Structural Design of several 2-storey multi-units town houses. These towns houses are typically lightweight timber roof and floor with reinforced masonry blocks or timber partition walls. Bracing of these town houses were by a combination of GIB, plywood bracings, block walls and steel portal frames.

Architectural Houses, Christchurch, 2012-2015

Structural Design of several single to multi storey architecturally designed houses. Values of these houses range between \$1 million and \$2 million. Most of these houses are located on hill sites, which normally require site retaining. Different types of retaining systems have been designed such as cantilevered retaining walls, buttress walls,

timber pole retaining walls and mechanically stabilised earth.

27 Coates Ave, Auckland, 2019

Structural preliminary design of a 4-storey apartment with one level basement. Carried out utilising Spacegass and Etabs modelling. Completed the gravity structures design.

INDUSTRIAL PROJECTS

Island Units, Auckland, 2019 - present, \$9m

New high specification warehouses – 6 no. conjoined and a single standalone – with associated single and two storey offices for each warehouse, constructed on a high profile site in Highbrook. The warehouses typically contain large spans for the rolled section portal frames, saw-tooth roofs and precast concrete dado panels, plus canopies. Stepped floor levels to overcome the site topography. Hard stand paving throughout the development for heavy vehicles. Structus are engaged for structural engineering design and construction monitoring.

Timberley Development, Auckland, 2019 - present, \$8m

New high specification 4,700m² warehouse with associated two storey offices. The warehouse contains large span Steltech section portal frames, precast concrete dado and full height panels and large canopies. Site retaining walls required to overcome the site topography, and RC bored pile bridging required for a large public stormwater pipe. Hard stand paving for heavy vehicles. Structus are engaged for structural engineering design and construction monitoring.

Fruit Packing warehouse for Gourmet Blueberries, Hawkes Bay, 2017

Structural and civil design and management of a fruit packing warehouse. The warehouse is a 3500m² extension of the original warehouse. The warehouse comprises of insulated panels supported by steel structures in connection with truck loading docks and a large covered forklift operational area. The design challenge was to develop non-standard insulated panel connection details, working closely with the panel supplier to deliver a cost-effective solution to the client whilst meeting the water tightness requirements. In addition, the civil design challenge was to design an onsite stormwater disposal system to manage the stormwater due to the limited council storm water systems in that area.

RETAIL PROJECTS

Supermarket Refurbishments, NZ wide, 2016-present, \$2-10m

Refurbishment of 2 no. Countdown and Fresh Choice supermarkets to date for Woolworths NZ, including new mezzanines, concrete slabs, extensions, canopies, store frontages, structural bracing, rooftop plantrooms, bulkheads, partition walls, pylon signs, building component seismic restraints and floor trenches and setdowns. Structural engineering design, Revit documentation and construction monitoring.

EDUCATION AND PUBLIC PROJECTS

Kaiapoi High School Gymnasium, Kaiapoi, 2017

Structural design and design management of a new gymnasium. The gymnasium is funded by the MoE and Waimakariri District Council and is promoted as a sustainable building for both school and public activities. The

gymnasium comprises of structural LVL timber portal frames and timber cross braces. The exposed interior timber structural skeleton makes the building unique, whilst the architectural language to the exterior allows the building to blend in with the surrounding environment. The design and design management works included structural and civil design work and leading the external consultancies to deliver the project on time in a cost-effective manner.

Cyclone Shelter, Cook Island, 2019

Structural design of a 2 storey Cyclone Shelter. The cyclone shelter will be used as a post disaster structure. Therefore, it has been categorised as an "Importance level 4" structure. The cyclone shelter is a masonry building with light weight timber roof and reinforced concrete floor. The building has been designed to withstand strong winds in the pacific islands and storm surge loads. The limitations on resources on islands required most of the construction materials to be transported to the islands. Therefore, the design required special attention to material transportation and buildability with limited tools.

COMMERCIAL AND OFFICE PROJECTS

Seashell Cove, Momi Bay, Fiji, 2017

Structural preliminary design of a 2-storey hotel reception building. The building comprises a series of short concrete / masonry walls distributed circularly to form a cylindrical shape. The outer 'cylinder' and the inner 'cylinder' provide both gravity support and bracing. The suspended reinforced concrete floor spans between two 'cylinders' to form an atrium at the centre of the building. The conical roof comprises light weight LVL rafters which are connected to a steel ring at the top of the cone and further braced with a series of tension rings. The challenge of this

project is the level of complexity in terms of the building shape and large openings.

19 Southwark Street, Christchurch, 2016

Structural design and construction monitoring of a new office floor level within an existing warehouse. This unique project includes designing an isolated floor within a strengthened warehouse. The structure was carefully detailed around the existing warehouse members while meeting fire resistance ratings. Since all the steels are imported from overseas, the design ensured ease of shipping and installation onsite.

8 Yaldhurst Road, Christchurch, 2013

Structural design of a 2-storey motel and retail building. The building comprises of precast rib and infill floor supported by steel beams, columns and reinforced masonry. The surrounding existing buildings are located right at the boundary lines which brought challenges to the design and the construction. A planned sequenced excavation process was implemented to ensure cost effectiveness and safety.

DETAILED SEISMIC ASSESSMENTS AND STRENGTHENING PROJECTS

Palmerston North Airport, Palmerston North, 2018

The two storey airport terminal building comprises of precast rib and infill concrete floor supported by gravity reinforced concrete frames. Circular columns extend to the roof level supporting light weight steel roof structures. The bracing is provided by cantilever actions of circular reinforced concrete columns. The Simple Lateral Mechanism Analysis (SLaMA) was carried out based on NZSEE guideline and displacement based assessment principals. Two strengthening options against levels of %NBS

were presented to the client for evaluation. Challenges of the project included the existing building differs from drawings, existing services were not correctly shown on drawings and working to ensure clients could maintain daily operational use of terminals.

73 The Square, Palmerston North, 2018

Detailed assessment and strengthening. The original DSA report for this 4-storey retail and office building rated the building as seismic rating class D, which would require a major structural upgrade to meet the current building code. Following a more detailed re-assessment, the building seismic rating has been improved to class B with minor strengthening works required.

38 Dicken Street, Napier, 2018

Structural assessment, strengthening and alteration of a 2 storey URM infill frame building. The scope involved the preservation of the heritage street front wall and alteration of the building from a retail store into a restaurant on the ground floor and two apartments in the upper storey.

112-118 Kennedy Road, Napier, 2018

Structural assessment and strengthening of a 2-storey retail complex. The building comprises of reinforced concrete moment frames and shear walls supporting reinforced concrete slabs at mid floor. The assessment was carried out as per the NZSEE Simple Lateral Mechanism Analysis (SLaMA). The strengthening works involve installation of new steel portal frames to the ground floor and steel beams with haunches at the roof level. The building seismic rating was then upgraded from D to B.

**Sign of Kiwi, Summit Rd, Christchurch,
2016**

Repair and strengthening. The iconic heritage building located in Christchurch was damaged during the Christchurch earthquake series. The repair and strengthening works involved replacing stone masonry with modern construction materials such as reinforced concrete, steel and reinforced masonry. The challenges of the project were to preserve the heritage value of the building and a lack of existing structural information.

PEER REVIEW PROJECTS

Pullman Hotel, Auckland, 2019

Structural design peer review of a 10-storey hotel building. The building comprises steel composite floors supported by steel columns. A large truss column structure provides gravity support for 8 stories above. The truss column also cantilevers to provide a large clearance at the entrance. The horizontal load bracing was provided by 8 bays of buckling restrained braces.

